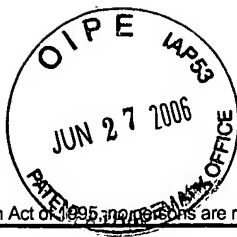


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PTO/SB/33 (07-05)

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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**Docket Number (Optional)  
AARL 01-24 05

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Signature \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Application Number  
10/025,042Filed  
12/18/2001First Named Inventor  
William A. AhroonArt Unit  
2654Examiner  
David D. Knepper

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal, and Petition for a Three Month Extension of Time and Fee.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

☒ attorney or agent of record.  
Registration number 46,075
☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34. \_\_\_\_\_

Signature

Kevin M. Barner  
Typed or printed name

202-331-8777  
Telephone number

June 27, 2006  
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : William A. Ahroon Confirmation No.: 6064  
Serial No. : 10/025,042 Examiner: David D. Knepper  
Filed : December 18, 2001 Group Art Unit: 2654  
For : DETERMINING SPEECH INTELLIGIBILITY

**REQUEST FOR PRE-APPEAL CONFERENCE & BRIEF**

Commissioner for Patents  
Box 1450  
Alexandria, VA 22313-1450

Sir:

For the reasons set forth below, Applicant requests that the final rejection of claims 1-16 be reviewed by an appropriate panel pursuant to the USPTO's Pre-Appeal Conference procedures and, as a result, the rejection of claims 1-16 be overturned.

**ARGUMENT**

***Claim Rejections Under 35 U.S.C. §112, ¶¶1 & 2***

It is asserted in the Final Office Action that "calibrating at least one recorded spoken word...", as that term is used in claims 1-16, is not enabled by the specification (see rejection under §112, ¶1) and, thus, the claimed term is indefinite because it is "unclear what is being done to achieve this desired result." (see rejection under §112, ¶2). The drawings are objected to "because there is no figure showing a 'calibrated spoken word.'"

It is respectfully maintained, however, that a skilled artisan would understand that "calibrating" a previously recorded word means that the respective sound energy of that word is set to "substantially the same sound energy" as the other recorded words, "at least as viewed against some common scale." (See, e.g., Claim 1 and Specification, page 5, lines 21-23). Calibrating the recorded words in this manner "insures that the SRT testing measures speech reception across words having the same or similar energies." (See, e.g., Specification, page 5, lines 24-25). Further, it is disclosed that;

two of the common scales which the inventor has used to calibrate the words are the Root Mean Squared (RMS) energies of a waveform representative of the words (e.g., a computer data file containing binary information representative of a voltage waveform produced by a microphone), and positive peak values (such positive peak values relative to a defined baseline) of waveforms representative of the words (e.g., a computer data file containing binary information representative of a voltage waveform produced by a microphone)."

(Specification, page 5, line 25 through page 6, line 2).

On page 9, lines 2-5, of the specification it is further disclosed that, the "calibrated" spoken words are derived by scaling each recorded word, for example, "in a succession of Microsoft WAV files ... such that the RMS energy of the waveforms of the recorded words are substantially equal."

In an exemplary embodiment the “calibrated” spoken words are “achieved by a computer program running internal to the system unit” which scales each recorded word, for example, in a succession of WAV files, “such that the positive peak value of the waveforms representative of the recorded words are substantially equal.” (Page 9, lines 13-18). It is also disclosed that the individual peak-to-peak values, maximum-absolute-peak value, etc. may also be used to scale the waveforms. (Specification, page 9, lines 20-21).

One of ordinary skill in the art would clearly understand that in accordance with the disclosed exemplary embodiments of the invention, a computer data file representative of voltage waveforms produced by a microphone, such as WAV files of recorded words, are scaled in order to make the sound energy of each recorded word the same, thus “calibrating” the recorded words. Because a skilled artisan would know how to perform a method of determining speech intelligibility, including a “calibration” procedure, in accordance with the claimed invention, particularly after reading the current specification, Applicant submits that the claims are enabled under 35 U.S.C. § 112, ¶1.

Furthermore, the claimed calibration requirement does, in fact, “find sufficient disclosure under 35 U.S.C. § 112, ¶1.” See, for example, the specification at pages 2, 4-6 and 9. Accordingly, in addition to obviating the rejection under 35 U.S.C. § 112, ¶1, the apparent basis for the Examiner’s rejection under 35 U.S.C. § 112, ¶2, is also rendered moot. Particularly, the grounds of rejection assert that claims 1-16 are indefinite because it is unclear how to achieve the calibration step recited in the claims. As noted above, however, the specification clearly informs a skilled artisan how to carry out the claimed invention, including the calibration step. For example, as required by independent claim 1, the recorded words are *calibrated* such that they each have the same sound energy. Further, as claimed, this calibration function occurs before the words are presented to the test subject so the test subject hears calibrated words.

Lastly, with respect to the drawings, for similar reasoning as set forth above with respect to the claim rejections under 35 U.S.C. § 12, ¶¶1 & 2, Applicant respectfully submits that no detailed drawing of an exemplary calibration procedure is required. The application as originally filed provides one of ordinary skill in the art all the information necessary to make and use the invention.

### ***New Matter Rejection***

The final office action further alleges that the Amendment filed October 18, 2006 introduced “new matter” by adding the language, “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy.” Applicant respectfully disagrees with the characterization that this language is “new matter.” The specification clearly supports this language, as discussed at length above and in previous responses. Ample support for this recitation in the claims is found, for example, at page 5, line 17 through page 6, line 2; page 9, lines 15-25 of the specification as originally filed.

### ***37 CFR 1.78(b) Rejection***

The grounds of rejection allege that claims 1-4 of the present application conflict, under 37 CFR 1.78(b), with claims 1-4 of co-pending application no. 10/025,045. Applicant respectfully submits that this assertion is clearly erroneous. The Examiner has failed to point out that which is in conflict with respect to these claims. Accordingly, this *rejection* is clearly erroneous to the extent it

fails to provide Applicant with any basis therefor. Without being informed of the alleged conflict, Applicant can not begin to address this *rejection*.

Furthermore, Applicant submits that the indicated claims, claims 1-4, are not in conflict. Claims 1-4 of the present application include, *inter alia*, “measuring speech intelligibility indicative of a percentage of the presented at least one calibrated spoken word or words that the test subject successfully identified.” In comparison, claims 1-4 of co-pending application ser. no. 10/025,045 include, *inter alia*, “measuring a speech reception threshold indicative of a sound level at which the test subject can recognize the presented recorded spoken word or words.” It is clear that claims 1-4 in the present application are different than claims 1-4 of co-pending application no. 10/025,045, with attendant differing scopes and, accordingly, the claims do not conflict with each other.

***Rejection of Claims 1-5 and 10 Under 35 U.S.C. § 103 over Revit***

The Final Office Action asserts that claims 1-4, 8-13, 19 and 20 are rendered obvious by the disclosure of Revit. In particular, it is asserted that Revit suggests calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy, as expressly required by independent claims 1 and 10. The alleged support for the rejection is based on Revit’s calibration procedure 911, depicted in Fig. 9. Applicant submits that the calibration procedure mentioned in Revit is completely different than the disclosed and claimed calibration procedure in the present application and, further, the Revit calibration procedure does not in any way suggest the claimed calibration in claims 1 and 10 of the present application.

In particular, at paragraph [0087] Revit discloses “the gain of the corresponding audio power amplifier is then adjusted so that the sound level measured at [a particular location] matches the calibration level achieved during the recording calibration.” This method of calibration is similar to the prior art method discussed in the background section of the present application. That is, according to Revit the gain of the power amplifier driving the speaker is adjusted to achieve a predetermined level. In accordance with Revit, interference sounds are recorded and, additionally, a target speech signal is recorded. The target speech signal is then output from a power amplifier and a loudspeaker both designated for the target speech signal and the interference noise is output on multiple power amplifiers and respective loudspeakers designated for the noise. A test subject is strategically located with respect to the various loudspeakers and the amplifier gain for the target speech signal and the interference noise signal(s) are independently manually adjusted, i.e., by manipulating respective attenuators. (See, e.g., par. [0051]-[0052]).

The apparent object of the Revit invention is to assess performance of real-world hearing and hearing aids. The loudness level, i.e., amplifier gain, for the speech signal and the interference signals are independently adjusted to simulate a real-world acoustic environment with respect to the test subject. Similar to the loudness adjustment processes described in the background section of the present application, Revit does not contemplate the calibration of individual words relative to each other, i.e., by scaling their respective sound energies to be substantially the same. For at least the above reason Revit does not teach or suggest the calibrating step recited in independent claims 1 and 8 and, thus, claims 1 and 8 and those claims dependent thereon, in particular claims 2-7 and 9-14 are not rendered obvious over Revit.

The Final Office Action further asserts that Revit discloses measuring a speech reception threshold utilizing the at least one calibrated spoken word because Revit's "tester keeps score ... of words repeated correctly by the listener." In response, Applicant submits that Revit does not teach or suggest the claimed measuring step because Revit does not teach or suggest "the at least one calibrated spoken word" as discussed above. The grounds of rejection admit that Revit fails to "explicitly teach 'calibrated recorded spoken [words].'" (Office Action, page 12). Alternatively, it is asserted that Revit teaches recordings of "real conversations taking place in real-life environments" (par. [0099]) and that it would have been obvious to apply the calibration of the interference sounds, discussed above, to the words of the recorded conversations "because [Revit] teaches that the material he is recording may include words as portions of sentences." (Office Action, page 12). This argument simply does not follow. Just because the interference sounds and the sentences including words are both recorded does not imply that any given process applied to one is necessarily applied to the other. Specifically, just because the interference sounds are "calibrated" does not make it obvious to also "calibrate" recorded conversations.

Furthermore, even if it were obvious to calibrate the recorded sentences in Revit merely because the recorded interference sounds were calibrated, the claimed invention is still not rendered obvious because Revit fails to teach or even suggest calibrating the words by controlling each of the at least one recorded spoken words to have substantially the same sound energy. For this additional reason Revit does not render any of claims 1-5 and 10 obvious under 35 U.S.C. § 103.

***Rejection of Claims 6 and 7 Under 35 U.S.C. § 103 over Revit in view of Shennib and Delisle or Parrot Software***

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over Revit in view of Shennib and Delisle or Parrot Software. Claims 6 and 7 depend from claim 1 and, thus, are patentable at least for the same reasons that claim 1 is patentable, discussed above.

***Rejection of Claims 8, 9 and 11-16 Under 35 U.S.C. § 103 over Engebretson***

Claims 8, 9 and 11-16 are rejected under 35 U.S.C. § 103 as being unpatentable over Engebretson. The calibration procedure disclosed in Engebretson, for example at columns 14-17, however, is completely different than the claimed calibration procedure, both in function and result. Specifically, in Engebretson, the calibration step "gathers preliminary data on the hearing aid and its characteristics when inserted in the patient's ear". For instance, "it is desirable to calibrate for the ear impedance". (Col. 16:26-27). The steps of the calibration procedure of Engebretson include producing a series of fixed-frequency test sounds, each sound being within a different frequency range. Using these different fixed-frequency sounds "the actual sound pressure level SPL(F) in the patient's ear" is determined. (Col. 16:61-64). The results of this calibration procedure are then used "together with measurements of the auditory area (defining the patient's hearing) to then automatically calculate filter parameters." (Col. 14:31-34). Accordingly, the calibration step in Engebretson does not include making respective sound energies of recorded spoken words equal, as required by independent claims 8 and 15. For at least this reason, Engebretson does not render obvious the subject matter recited in either of claims 8 and 15, or any claims dependent therefrom, specifically, claims 9, 11-14 and 16, respectively.

Further, Engebretson does not teach or suggest presenting recorded spoken words, each with the same sound energy, i.e., calibrated, to a test subject. Instead, as discussed above, Engebretson discloses presenting fixed-frequency sounds, or tones. For this additional reason, Engebretson does not render obvious any of claims 8, 9 and 11-16.

Lastly, Engebretson does not teach or suggest measuring the speech intelligibility level of a test subject by using recorded spoken words of equal sound energy, i.e., by using the "calibrated" words. Instead, Engebretson discloses calculating filter parameters by using the results of a calibration procedure in conjunction with "measurements of the auditory area", which define the patient's hearing. (Col. 14:31-34). Thus, not only is the calibration procedure of Engebretson different in process than the claimed calibration, as discussed above, but the calibration result in Engebretson is not even utilized as part of the measurement of the patient's hearing. A completely separate measurement is used for that purpose.

For the reasons set forth above, Engebretson does not render obvious any of independent claims 8 and 15, or any of the claims dependent on these claims, specifically, claims 9, 11-14 and 16.

***Rejection of Claims 13 and 14 Under 35 U.S.C. § 103 over Engebretson in view of Shennib and Delisle or Parrot Software***

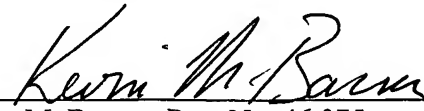
Claims 13 and 14 are rejected under 35 U.S.C. § 103 as being unpatentable over Engebretson in view of Shennib and Delisle or Parrot Software. Because claims 13 and 14 each depends from independent claim 8, which is patentable as discussed above, and because none of Shennib, Delisle and Parrot Software compensates for the deficiencies discussed above related to Engebretson, Applicant submits that claims 13 and 14 are patentable over the art of record for at least the same reasons as set forth above.

***Conclusion***

In view of the foregoing, as well as the remarks presented in at least the October 18, 2005 and March 27, 2006 responses, Applicant submits that the rejections asserted against claims 1-16 are erroneous and that all of the claims of the present application are allowable. Accordingly, reconsideration of the rejections and favorable disposition of the present application are respectfully requested.

Respectfully submitted,

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